



# **PRESSURE AREA CARE**

## **LEARNER INFORMATION PACK AND WORKBOOK**

Name \_\_\_\_\_

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## Introduction

Pressure ulcers (also known as pressure sores) are a common problem, which can severely affect the quality of life for individuals. However with good care, most can be avoided, by removing the causes of pressure damage.

This workbook will enable you to undertake pressure area care for individuals, following the individual's care plan and risk assessment, as well as relevant protocols and procedures within your work area. The aim is to maintain healthy skin and thus prevent breakdown and the development of pressure sores.

You will learn about the risk factors that make an individual more likely to develop pressure ulcers, changes in skin condition to look out for and how to position individuals to reduce pressure.

You will learn the 5 elements of care that can be bundled together to prevent pressure ulcers developing.

**SSKIN:**

Surface

Skin Inspection

Keep Moving

Incontinence

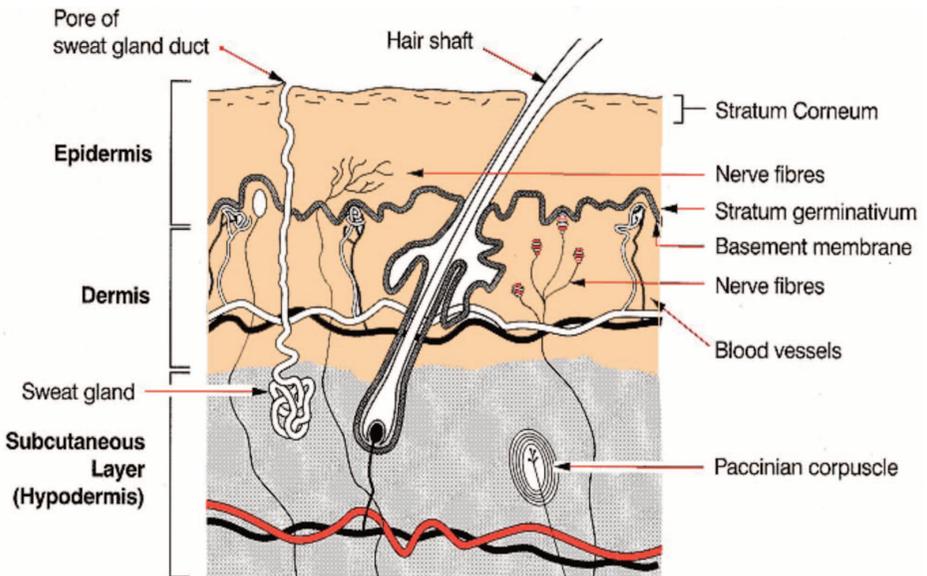
Nutrition

Throughout the workbook, you will have the opportunity to demonstrate your learning through activities and questions.

# 1. The normal structure and function of the skin

The skin is an amazing organ. Measuring around 2 square meters and accounting for up to 15% of your body weight, it is the largest and heaviest organ of your body. It is made up of three layers:

- **The epidermis** – this is the thin outer layer of the skin that you can see when you look at yourself. It is only about 0.04mm thick and does not have its own network of blood vessels, so that it has to get its nutrients from the underlying dermal layer. Every 4 weeks the epidermis completely renews itself as the outer cells are worn away and replaced with new ones from underneath.
- **The dermis** – this lies beneath the epidermis, it is about 0.5mm thick and is the active part of the skin. It contains blood vessels, nerves, hair follicles, sebaceous (oil) and sweat glands and lymphatics. The dermis contains collagen, fat and elastin fibres which give the skin its strength and flexibility.
- **Subcutaneous fat layer**– this layer of subcutaneous fat lies under the dermis. It also contains blood vessels and connective tissue. It forms a protective layer over the underlying organs and structures and also acts as an energy source for the body and provides insulation from changes in the outside temperature.



The skin has several different functions, but its main job is to protect the body. It does this by:

- **Regulating temperature** – when the outside temperature rises, the body is cooled by the production and evaporation of sweat from the skin. Blood vessels in the skin dilate to increase blood flow near the surface of the skin (that's why you go red when you get hot) so that heat can be radiated away from the body. When the outside temperature falls, the skin tries to insulate the body by forming goose bumps, this makes the hairs stand up trapping warm air near the body and the blood vessels contract to limit the heat lost at its surface.
- **Forming a physical barrier** – the skin helps to shield the body from mechanical, thermal or chemical damage. It also protects you from UV radiation, bacterial invasion and stops you becoming dehydrated.
- **Providing sensation** – nerve endings within the skin can detect changes in temperature and pressure. They can also detect vibration and pain.
- **Excreting waste products** – the skin is one way in which the body gets rid of excess heat, water, salts and toxic organic compounds.

The skin is considered to be an organ because one of its important functions is to help in the production of Vitamin D. When your skin is exposed to sunlight, the UV rays produce Vitamin D which is needed to form healthy bones.

The appearance of the skin is important because if damaged or abnormal in any way, it can affect an individual's body image and quality of life.

Finally skin plays a part in communicating with others. Like body language, changes in skin colour (e.g. blushing), facial expression and body odour can all give clues as to how an individual is really feeling. Sometimes this may be at odds with what the individual is actually saying.

## ACTIVITY 1

1. What are the 3 layers of the skin? Briefly describe each one

2. Name four functions of the skin

3. Why is the skin considered to be an organ?

## 2. How pressure ulcers develop

Pressure ulcers, often called bed sores, can be a problem for any individual in any care setting. They develop when unrelieved pressure prevents the blood being supplied to the cells and if the pressure is not removed, the damage will spread.

The severity of the damage can range from reddening of the skin to large cavity wounds with damage to muscles and even bones.

Damage may be caused by:

- prolonged periods of inactivity (lying or sitting in bed or in a chair for hours without moving)
- high pressure for relatively short periods of time (e.g. a commode for 20 minutes or poor handling when being moved)
- pressure from equipment being used to monitor or treat an individual (e.g. catheters, heart monitors or bandages)
- The most common sites for pressure ulcers to develop are:
  - The sacrum (the curved triangular bone just above the buttocks) – accounts for around 30% of all pressure ulcers
  - The heels – accounts for around 25-30% of all pressure ulcers
  - The bottom – accounts for around 10% of all pressure ulcers

The remaining 30% of pressure ulcers recorded generally occur over bony prominences such as the shoulders, ankles and elbows (see diagram below).

**figure 1**

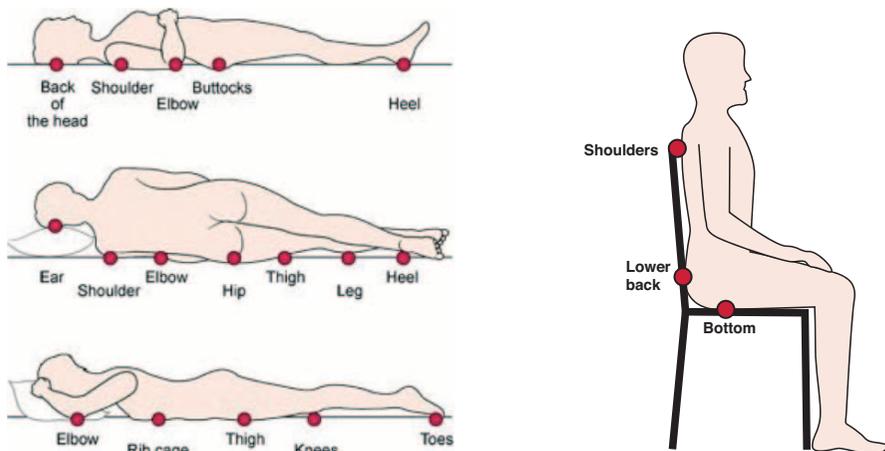


Diagram showing the areas of the body at risk of pressure sores when lying down

© CancerHelp UK  
Original diagram by the Tissue Viability Society

## Pressure ulcers and skin damage



### ACTIVITY 2

List where you think the pressure areas would be on a person lying in bed on their back

## 3. The importance of using pressure damage risk assessment tools

Individuals who are immobile spend a long time in a bed, or wheelchair, or who spend a long time sitting each day are particularly prone to developing pressure ulcers. However some individuals are more at risk of developing pressure ulcers than others, and a number of factors have been identified as being important in predicting who is most at risk. There are several risk assessment tools. This starts with the risk assessment tool that you will have been introduced to in your training.

**Internal (Intrinsic) risk factors** – these are factors to do with the individual and what makes them at risk. These include:

- **Age** – those over 65, neonates and very young children are at highest risk.
- **Health** – if the individual is unwell, they are at increased risk. Acute illness can cause changes in the body's normal functioning e.g. raised temperature, low blood pressure, constriction of the blood vessels. Chronic or terminal illness may result in reduced mobility or poor circulation. Certain medications can also increase the risk, e.g. by increasing sedation.
- **Level of consciousness** – if the individual is lethargic or becomes unconscious, he or she will not be able to change position to reduce pressure e.g. following acute illness or surgery.
- **Weight** – Underweight and overweight individuals are at risk of developing pressure ulcers: underweight as the bony areas on the body become more prominent and overweight because there is more weight on the pressure points and the blood supply has further to travel through the fat layer to the dermis.
- **Nutritional status** – those who are malnourished or dehydrated are at most risk. Poor nutrition can affect the elasticity of the skin and its ability to fight infection.

- **Previous history** – individuals who have suffered from pressure damage in the past are more likely to develop pressure sores.
- **Mobility** – patients who have reduced mobility or are immobile are most at risk, because they are less able to relieve pressure by moving position.
- **Sensory functioning** – individuals with sensory impairment (e.g. those unable to sense pain due to nerve damage or spinal injury) may not receive the stimulus to move to relieve pressure and are at greater risk.
- **Urinary or bowel incontinence/leg ulcer moisture**
- **Vascular disease** – individuals with poor circulation due to damaged or partially blocked blood vessels are at increased risk of pressure damage. This is due to reduced blood volume and reduced flow of blood in the arteries and capillaries supplying the skin and underlying tissues.

**Extrinsic risk factors** - these are factors to do with the surrounding environment and the things that can cause the damage e.g.

- **Amount of pressure** – e.g. from a bandage that has been applied too tightly
- **Type of pressure** – e.g. from being moved across a bed
- **Duration of pressure** – e.g. how long the individual remains in the same position
- **Level of care available** – e.g. staffing levels may mean that the individual can be moved every 2 hours or only 4 times per day
- **Type of mattress** – using low pressure foam mattresses may reduce the risk
- **Design of seat or wheelchair**
- **Education** – showing individuals how to sit correctly and explaining why frequent repositioning is important can reduce the risk
- **External influences upon the skin** such as urine, faeces, starch from sheets, perfumes etc

Risk assessment tools, combined with clinical judgment of the h staff are used to formulate the individual's care plan to prevent pressure ulcers developing and to treat or manage any already present. The level of risk will be indicated on page 3 of the Think SSKIN pressure sore prevention guide

### ACTIVITY 3

Mr. Brown is 67, weighs more than he should (15 stone and he is 5ft 7ins), he has a history of high blood pressure and is recovering from a hip replacement operation which has limited his mobility.

1. What are the factors that put Mr. Brown at risk of developing pressure ulcers?

Mrs. Smith is 75; she is in the terminal stages of breast cancer and is confined to bed. She finds it difficult to eat, and needs diamorphine to help control the pain. Unfortunately this medication makes her very drowsy and she spends much of the day drifting in and out of consciousness.

2. What are the factors that put Mrs. Smith at risk of developing pressure ulcers?

3. Do you think Mr Brown or Mrs Smith is more at risk and why?

## 4. Skin Inspection:

Check the skin regularly as this will help to prevent pressure ulcers through early detection of redness. Check when washing or dressing a person to make it part of a daily routine.

### Keep Moving:

- **Getting individuals moving** – so that they can change position by themselves
- **Making sure that individuals are regularly repositioned** to relieve pressure over bony prominences when sitting in a chair or lying on a bed.
- **Keeping time spent on the damaged area to a minimum**
- **Moving and handling individuals with great care** to prevent friction, abrasion or stretching of the skin

### Incontinence:

- **Keeping the skin clean and dry**, using soap and water or prescribed skin cleansers not baby wipes.
- **Ensuring any prescribed creams or barrier creams** are applied as directed.

### Nutrition and Hydration:

Making sure each individual has access to a drink to keep the skin hydrated and adequate nutrition to maintain healthy skin

- **Finally educate individuals** on how to avoid damage by involving them in their care and implementing the SSKIN bundle

## 5. Prevention

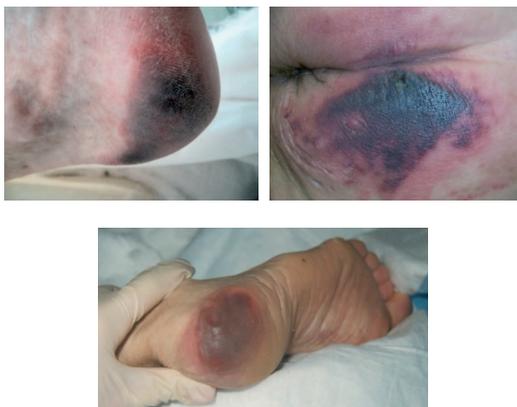
- **Two important aspects of your job** in preventing pressure damage will be skin inspection and repositioning.
- **Skin inspection** – this is the best way of identifying whether pressure damage could become a problem. Ideally the individual should inspect their own skin regularly for any changes, but this is not always possible and you may have to carry out the inspection for them. This will involve checking the skin over bony prominences (e.g. the heels, sacrum, buttocks) and any other areas likely to be affected by pressure. The signs of early pressure damage that you should look out for are:
- **Redness** – Non-blanching redness of the skin (erythema) does not go white (blanch) if you apply light finger pressure. (see figure 2). On pigmented skin, redness will not be seen; a blue/purple tone may be seen as the indicator of pressure damage. Other signs to look and feel for are, the skin may also feel warm to the touch, show signs of oedema (swelling) or become hard.

Figure 2:



- **Blisters** – blisters over a bony areas indicate that the epidermis has become separated from the underlying dermis.
- **Discolouration** – in the early stages the skin usually becomes red. However watch out for other discolouration which may indicate that significant damage has already occurred. If the skin appears more blue, purple or black, it could mean that there is more extensive damage below the surface of the skin. In particular if the skin is black with a hard or leathery covering it indicates that tissue necrosis (death) has occurred and the individual has a severe pressure ulcer. It is more difficult to see early signs of pressure damage in dark or heavily pigmented skin, which may appear purple or blue rather than red.

Figure 3:



## 6. Repositioning

- **If possible the individual should be encouraged to reposition themselves** whenever they begin to feel uncomfortable. However if this is not possible, or practical, you will have to carry out regular manual repositioning.
- **Frequency** - the starting point for any effective turning regime should be every 2 hours. If there is no marking of the skin during this time you can increase time slowly to determine the maximum amount of time an individual can be left for. This is particularly helpful at night to enable people to have longer between turns.
- **Support surfaces** – it is important to choose an appropriate support surface when repositioning individuals. Community nurses or OT's will undertake this assessment for you. Please visit link page on reacttoredskin website.
- **Mattresses** – Foam and alternating air mattresses can be used with people at risk of developing pressure ulcers.
- **Seating** – selecting appropriate seating should be left to a trained assessor such as a physiotherapist or occupational therapist. They should ensure that the entire chair and cushion ensure correct weight distribution, postural alignment and support for the feet.
- **Heel protectors** – the heels are at high risk of developing pressure sores, because there is very little soft tissue protecting the bone. The risk is even greater if the individual suffers from swelling of the lower leg due to circulatory problems. To reduce the risk an inflatable heel protector should be used when the individual is in bed or sitting with their feet on a footstool. If an inflatable heel protector is not available, foam heel lift protectors or pillows may be used instead. The community nurse will plan which heel protector is to be used by the individual.
- **Other aids** – there are many aids available claiming to help reduce the risk of pressure ulcers. However none of these have been scientifically proven to help and indeed some may even make things worse. In particular you should not use:
  - Ring cushions or other doughnut shaped devices
  - Synthetic sheepskins
  - Water-filled gloves

The community nurses or therapists will need to be alerted if any of the equipment looks like it is not functioning. For example an air mattress that is alarming or deflated, a foam mattress that is ripped/torn or dipped in the centre.

You may be asked to reinflate static air equipment (Repose). This may include a mattress, cushion or foot protectors. The hand held pump will be provided with the equipment. Ask for training if you are unsure.

- **Alternative positions** – there are many repositioning alternatives. If possible get the individual to stand. If this is not possible one of the most popular alternative positions is the sideways 30 degree tilt. The body is positioned using pillows to reduce pressure over the bony prominences. .
- **The advantages are that repositioning** can be carried out regularly with minimal disturbance to the patient and less risk of back injury for the carer.

## **ACTIVITY 4**

1. List 5 things you can do to help prevent pressure damage

2. What are the three most common early signs of pressure damage?

## 7. Management of Existing Pressure Ulcer Damage

There are two main areas of concern for Health & Safety when carrying out pressure area care:

### a) Infection control

It is very important to prevent any areas with pressure damage becoming infected. Not only will infection delay healing of the wound, but it could lead to more serious systemic (whole body) infections such as septicaemia (bacterial infection of the bloodstream). Such systemic infections can be fatal in vulnerable patients such as neonates (newborn infants) and the elderly. You can help to prevent the spread of infection by taking standard precautions including:

- **Washing your hands** thoroughly before and after carrying out pressure area care
- **Wearing disposable gloves and aprons**
- **Wearing a new pair of gloves for each patient** and washing your hands thoroughly between individuals.
- **Making sure the pressure ulcer is covered with a dressing** to minimize the risk of airborne cross-infection. Contact a trained nurse if the dressing has come off.

### b) Moving and handling

Moving and handling injuries are unfortunately fairly common in any care setting. There is a risk both to the carer and the service user. To reduce the risk of moving and handling injuries when carrying out pressure area care, you should carefully follow the procedures specified by your workplace. These should include:

- **Using correct techniques** for lifting, carrying, moving, setting down and repositioning individuals.
- **Checking your position and posture** throughout the move
- **Using hoists or other technical moving and handling aids** wherever possible particularly a slide sheet to prevent shearing on the skin.
- **Taking particular care when moving vulnerable individuals** across a bed or cushion to prevent abrasion of the skin due to friction between the skin and the mattress or cushion. Any abrasion can make superficial pressure ulcers worse especially if the individual's skin is moist or wet due to sweating or incontinence.

## **8. How to encourage individuals to be involved in their own pressure area care.**

Some individuals may only be at risk of developing pressure damage for a short while e.g. whilst they recover from an acute illness or surgery. For others, there may be a constant risk of pressure damage due to loss of mobility or an illness

It is important that you encourage individuals to be involved in their own pressure area care where possible. You can do this by:

- Explaining the importance of pressure area care
- Educating them on the signs of pressure damage to look out for
- Making sure they know what to do if they suspect pressure damage. Contact the carer or community nurse direct
- Getting them to regularly check the condition of their skin
- If possible reminding them to frequently reposition themselves
- Stressing the need for them to maintain a high standard of hygiene to keep skin clean and dry
- Explaining the importance of eating a healthy diet and drinking enough water
- Helping them to become mobile again as soon as possible e.g. by using mobility aids or exercise

### **How can you make a difference?**

- **Be aware of how to prevent pressure ulcers.**
- **Know the signs to look and feel for.**
- **Encourage mobility for all individuals.**
- **Report any early signs for a more in-depth assessment.**
- **Provide individuals with information on prevention and help them to understand it.**

**Working together as a team of carers with the individual at risk is the best way to prevent pressure ulcers occurring.**

**Pressure ulcer prevention is everyone's business and by working together and knowing when to ask for additional support, the development of pressure ulcers will become a rare event.**

**For additional information about the prevention of pressure ulcers you can use one of the following resource websites:**

**Information contained within this booklet has been approved by:**





